basic imagery interpretation report

Shangrao (Shang-jao) Cruise Missile Depot (S)

Strategic Weapons Industrial Facilities

25X1

CHINA

25X1
25X1

INSTALLATION OR ACTIVITY NAME					COUNTRY
Shangrao (Shang-jao) Cruise Missile Depot					CH
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NO.	COMIREX NO.	NIETB NO.
NA	28-26-30N 117-52-10E				25X1

MAP REFERENCE

SAC. USATC, Series 200, Sheet 0493-24, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
	25X1.1

ABSTRACT

1. (TSR) This report provides an imagery-derived analysis of Shangrao (Shang-jao) Cruise Missile Depot, Jiangxi (Kiang-si) Province, China, covering the period December 1975 through December 1979. It updates and supplements previous NPIC report This is the second in a series of three reports on the cruise missile depots in China. 25X1

2. (TSR) The depot is a multipurpose installation, the major function of which is the support and storage of STYX cruise missiles. A secondary function is the storage of unidentified munitions.

3. (TSR) Since 1975, Shangrao has been completed as a cruise missile depot, STYX crates were first seen, and four new buildings were constructed.

4. (TSR) This report contains a location map, seven annotated photographs, a chart, two appendices, and a table of mensural and chronological data.

INTRODUCTION

5. (TSR) Shangrao Cruise Missile Depot (Figure 1), the only cruise missile depot in the East Sea Fleet area, is situated in heavy karst terrain approximately 150 nautical miles (nm) west of the coast and 115 nm east of Nanchang (Nan-chang).

FIGURE 1. LOCATION OF SHANGRAO CRUISE MISSILE DEPOT, CHINA

25X1

6. (TSR) The depot (Figure 2) consists of four areas—a cruise missile (STYX) handling and storage area, a munitions handling and storage area, an administration and support area, and a rail-to-road transshipment area. Access to the depot is provided by hard-surfaced roads and the rail-to-road transfer point (RTP). Security is moderate; entry is controlled at gates and by fences and terrain. This report updates a previous NPIC report[1] and is the second in a series of three reports on the cruise missile depots in China.[2]

BASIC DESCRIPTION

7. (TSR) Shangrao Cruise Missile Depot consists of 62 buildings, two earth-mounded bunkers, and 13 adits in a series of valleys interconnected by concrete roads.

8. (TSR) The cruise missile (STYX) handling and storage area (Figure 3) consists of nine adits, two earth-mounded bunkers, and five buildings (one missile checkout, two missile handling, and two general support buildings—not all annotated on graphic). Since May 1976, STYX missile crates have been seen routinely /adjacent to the missile checkout building. Depot functions are probably carried out within the hillsides and in the two earth-mounded bunkers.

9. (TSR) The munitions handling and storage area (Figure 4) consists of three adits and 23 buildings connected by hard-surfaced roads. The adits and buildings provide a general munitions storage and maintenance support capability for the depot. To date, no crates, munitions, or supplies have been observed in this area.

10. (TSR) The administration and support area (Figure 5) consists of 14 quarters/barracks, two messhalls, 11 administration/support buildings, five vehicle storage/maintenance buildings, one adit, and an outdoor amphitheater (not all shown on graphic). This area provides personnel, administrative, and vehicle support for the depot. Four of the personnel/administration support buildings have been constructed in the area since December 1975.

11. (TSR) The rail-to-road transshipment area (Figure 6) is at the western end of the facility and consists of two RTPs. The cruise missile RTP consists of a double-track siding, a warehouse on the siding, and one support building. Rail flatcars used to transport STYX crates and general purpose railcars have been observed occasionally at the RTP. The second, collocated RTP serves an adjacent ammunition depot.

Related Installations

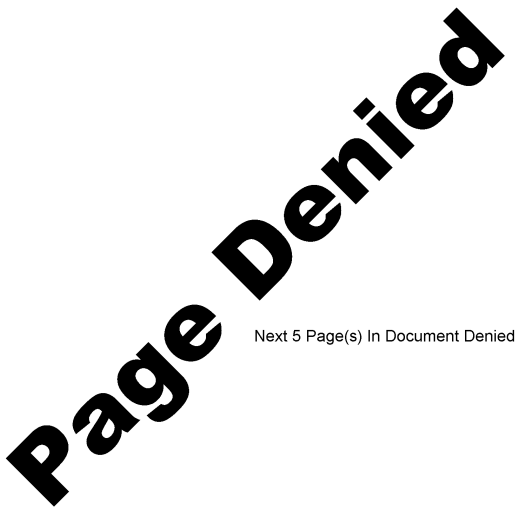
12. (TSR) Shangrao Ammunition Depot LL4 [redacted]) is on the western border of Shangrao Cruise Missile Depot. Shangrao Army Barracks W-Northwest AL-1 [redacted] Figure 7) is 4.4 nm to the northeast and is connected by road to the depot. The ammunition depot is an older facility which shares the rail-to-road transshipment area and hard-surfaced access roads to the cruise missile depot. The cruise missile storage function of the present depot was previously handled at the army barracks; however, no cruise missile crates have been observed there since January 1979. Therefore, the cruise missile functions have probably been transferred to the depot. Approximately 150 oxidizer kegs and 50 propellant tanks of various sizes are stored in a large open field 0.5 nm from the barracks (Figure 8). A chronology of STYX crate order of battle observed at Shangrao Army Barracks is presented in Figure 9.

Order of Battle

13. (TSR) Type A STYX missile crates were first observed at Shangrao Cruise Missile Depot in May 1976. Type B crates were first seen in September 1978 and type C in July 1979.[3] Trucks and truck-mounted cranes have been routinely observed at the depot. Neither specialized equipment nor equipment unique to cruise missile mobile units has been observed. Appendix A provides historical information on the cruise missile function of the Shangrao area before the construction of the depot. Appendix B provides a brief description of the STYX cruise missile system and a tabular listing of the East Sea Fleet firing units.

Imagery Analyst's Comments

14. (TSR) Construction of the Shangrao Cruise Missile Depot replaced an inadequate aboveground storage area with a well-designed, elaborately constructed, partially underground cruise missile and munitions handling and storage facility. Construction was begun during 1974 when both North and South Sea Fleet cruise missile depots were undergoing changes and STYX deployment along the coast of China was increasing. Building of the new depot at this location follows the policy of placing strategic facilities inland in protected, semihardened environments. Qinhuangdao (Chin-huang-tao) Cruise Missile Depot [redacted] 25X1
[redacted][3] in the North Sea Fleet area, and Ladong (La-tung) Probable Cruise Missile Depot [redacted] 25X1
[redacted],[4] presently under construction in the South Sea Fleet area, are also protected installations. The scope of the cruise missile depot construction at Shangrao is further evidence that the Chinese consider the STYX cruise missile program to be a strategic weapons program. Furthermore, the investment in facilities throughout China indicates that the Chinese intend to rely on the STYX for many years in the future.



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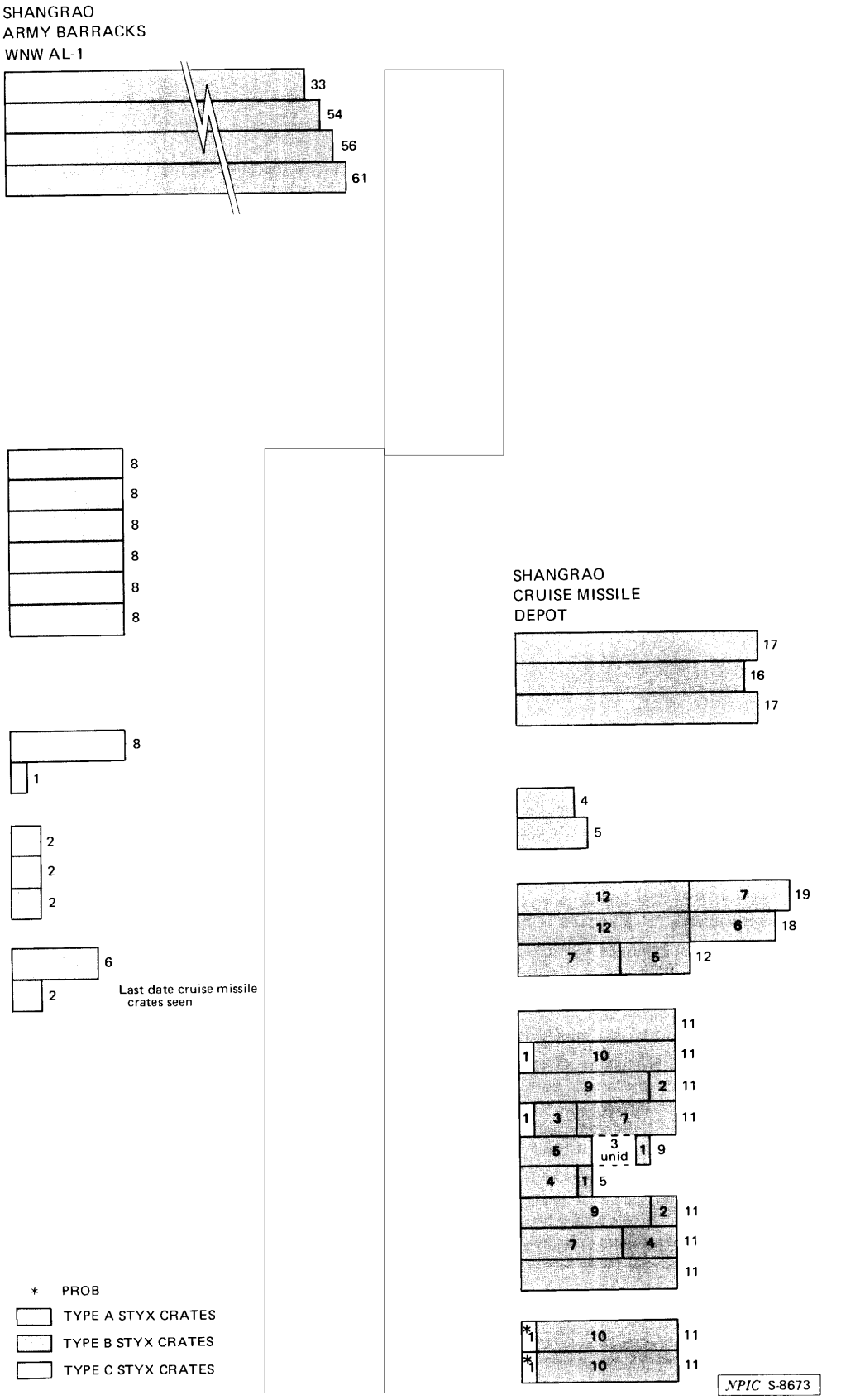

FIGURE 9. STYX CRATE ORDER OF BATTLE, SHANGRAO AREA

APPENDIX A

History of STYX Activity in the Shangrao Area

1. (TSR) The first STYX missiles in China were provided by the Soviets prior to 1963. By 1966, the Chinese had begun producing copies of the STYX missile at Nanchang (Nan-chang) Airframe and Missile Plant 320 [redacted] Initially, production was slow and only a few missiles were produced. However, production increased and missiles were returned for maintenance, the need for an intermediate handling and storage area was recognized. In 1969, Shangrao Army Barracks WNW AL-1 began to handle and store STYX missiles.[5] When Shangrao barracks was first seen in 1969, STYX cruise missile crates were scattered throughout a storage area* adjacent to the barracks. The area consisted of 11 large storage buildings and four small storage/support buildings. STYX crates were observed within the storage area until January 1979, except for a period from 1971 through 1973. The largest number of mobile cruise missile equipment ever observed in the Shangrao area (20 STYX missile transporters, a large number of cargo trucks, and support equipment) was seen in March 1973 in a field adjacent to the storage area.[6] At that time, STYX crates were not present in the area and had not been observed there since August 1971. It was not until December 1973 (after the equipment had been removed) that crates were again observed. 25X1

2. (TSR) In 1974, construction was begun on a new depot 4.4 nm southwest of the barracks area. This depot was larger with improved facilities for handling, storing, and maintaining cruise missiles. The new depot became operational between December 1975 (when construction was in the final stages) and May 1976 (when 17 STYX crates were present for the first time). Since May 1976, the cruise missile functions of the cruise missile storage area at Shangrao Army Barracks have been gradually transferred to the new depot. Crates were last seen at the storage area near the barracks in January 1979.

3. (TSR) Propellant tanks and oxidizer kegs are still stored near the barracks, but they will probably be moved to the new depot. When that occurs, all cruise missile depot functions for East Fleet STYX missiles, both prior to initial issue and at the time of rework, will be housed in one location.

APPENDIX B

STYX Missile System Information

1. [redacted] The CSS-N-1 and CSS-N-2/CSSC-2 STYX are short-range, low-altitude antishipping naval cruise missiles derived from the Soviet SS-N-2 STYX. Most of the information available on the STYX missile is derived from intelligence on the Soviet SS-N-2.[7] The STYX is an aerodynamic missile with a solid-propellant rocket booster for launch and a liquid-bipropellant rocket for sustained flight. The maximum range varies from 26 nm for the CSS-N-1 to an estimated 49 nm for the CSS-N-2/CSSC-2.[8] 25X1

2. [redacted] The missile is equipped with an active radar seeker for terminal homing guidance. It carries approximately 380 kilograms of high explosives in a blast-effect shaped charge warhead. 25X1

3. [redacted] Inhibited red fuming nitric acid and Tonka 250 are used as oxidizer and propellant in the STYX missile. Both substances are compatible with the metal used in the airframe and are storable within the missile for three to six months. A portion of the oxidizer and propellant remain in the missile at impact (the amount varies depending on the length of flight). Firing doctrine allows for a portion of the propellant to remain within the missile to spread fire upon impact.[7,8] 25X1

4. (S) The CSS-N-1 (short STYX) is employed by China on Kianghu, Riga, and Gordyy frigates and on Osa and Hoku missile attack boats. The CSS-N-2 is employed on the Luta destroyer, the only vessel that carries the longer missile. The CSSC-2 STYX, a coastal defense version which is probably identical to the shipborne CSS-N-2, is employed at coastal defense cruise missile sites and by mobile cruise missile units. A tabular listing of the East Fleet STYX firing units[9] follows:

CSS-N-1	10 Kianghu frigates (4 launchers each)	40 launchers
	61 Osa missile attack boats (4 launchers each)	244 launchers
	38 Hoku missile attack boats (2 launchers each)	76 launchers
CSS-N-2	2 Luta destroyers (6 launchers each)	12 launchers
CSSC-2	4 Operational cruise missile sites (4 launchers each)	16 launchers
	Total	388 launchers

*This area was also targeted as the Shang-jao Cruise Missile Storage Facility [redacted]; however, since the crate sightings and other information were also reported under Shang-jao Army Barracks WNW AL-1 ([redacted]) the target was considered to be redundant and was deactivated. 25X1

REFERENCES

IMAGERY

(TSR) All relevant KEYHOLE imagery acquired from [redacted] was used in the preparation of this report. A complete list of photo references is available upon request. 25X1 25X1

MAPS OR CHARTS

SAC. US Air Target Chart, Series 200, Sheet 0493-24, scale 1:200,000 (UNCLASSIFIED)

DOCUMENTS

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2. NPIC. [redacted] RCA-09/0030/79, *Qinhuangdao (Chin-huang-tao) Cruise Missile Depot (S)*, Dec 79 (TOP SECRET [redacted] 25X1 25X1
3. NPIC. [redacted] PIR-033/79 *Types of Chinese Cruise Missile Crates (S)*, May 79 (TOP SECRET [redacted] 25X1 25X1
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8. DIA. [redacted] DDB-1200-133-SAO, *PRC Cruise Missile Network: Development, Deployment and Interrelationship (U)*, Sep 78 (TOP SECRET [redacted] 25X1 25X1
9. DIA. DDB-1200-107-79, *Naval Order of Battle (NOB) Vol VII, People's Republic of China and Eastern Asia (U)*, Sep 79 (SECRET [redacted] 25X1

[redacted] 25X1

REQUIREMENT

COMIREX J01
Project 200036DJ

(S) Comments and queries regarding this report are welcome. They may be directed to [redacted] 25X1
Asian Forces Division, Imagery Exploitation Group, NPIC, [redacted] 25X1